REMARKS

Claims 1, 3-8 and 20 are all the claims pending in the application.

Initially, Applicant notes that on the Notice of References Cited Form accompanying the Office Action of February 2, 2009, reference "N" was incorrectly identified as JP 2000-32387. In this regard, Applicant notes that this reference should have been identified as JP 2000-332387. Thus, a corrected Notice of References Cited Form is kindly requested.

I. Claim Rejections under 35 U.S.C. § 112, first and second paragraphs

Claim 20 has been rejected under 35 U.S.C. § 112, first and second paragraphs due to the use of the phrase "subtractive method". By this amendment, Applicant notes that the phrase "subtractive method" has been replaced with the phrase --photo etching method--. Support for this amendment can be found at least at paragraph [0021] of the specification of the present application. In view of the foregoing, Applicant respectfully requests that the above-noted rejections be reconsidered and withdrawn.

II. Claim Rejections under 35 U.S.C. § 103(a)

Claims 1, 3-8 and 20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Murakami (JP2000-332387).

Claim 1 recites the features of forming a resin layer by superposing a semi-cured resin sheet having resin patterns formed thereon on the surface of the printed wiring board containing said circuit patterns, the resin patterns formed on the semi-cured resin sheet being the inverse of the circuit patterns formed on the printed wiring board; wherein said resin patterns on said semi-cured resin sheet are formed before said semi-cured resin sheet is superposed on the surface of

the printed wiring board, said resin patterns being formed on a surface of said semi-cured resin sheet facing said circuit patterns.

In the Office Action, the Examiner has recognized that Murakami does not disclose or suggest the above-noted features recited in claim 1 (see Office Action at page 4).

Nonetheless, the Examiner has asserted that providing such features would have been "an obvious matter of design choice... because applicant has not disclose [sic] that having the complementary resin circuit patterns complementary to said circuit patterns formed on the semi-cured resin sheet, facing and superposing said circuit patterns provides an advantage, is used for a particular purpose, or solves a stated problem" (see Office Action at page 4). Further, the Examiner has indicated that one of ordinary skill in the art "would have expected Applicant's invention to perform equally well with a resin layer (Fig. 3C, 14) on the printed wiring board because it fills spaces between circuit patterns (Fig. 3C, 5) as well" (see Office Action at page 4).

Applicant respectfully disagrees with the Examiner's above-noted comments. It is also noted that the figure and reference numbers that the Examiner has relied upon in the above-noted comment (i.e., Fig. 3C and elements 5 and 14) are not included in the present application or in the Murakami reference.

Regarding the Examiner's above-noted comments, Applicant respectfully submits that, contrary to the position taken by the Examiner, the specification clearly explains the problems associated with a conventional resin layer, such as resin layer 16 disclosed in Murakami (see Figs. 5 and 6), and the advantage that is provided by utilizing the above-noted features recited in claim 1 drawn to the resin patterns of the resin sheet.

For example, Applicant notes that paragraph [0004] of the specification explains the problems associated with a conventional resin layer, such as resin layer 16 of Murakami. In particular, it is described therein that where the circuit patterns are dense, a conventional resin layer tends to be difficult to force into spaces between the circuit patterns, and as a result, the remaining unfilled spaces may cause voids to be produced in subsequent processing. In addition, it is explained that at locations where the circuit patterns are densely formed, considerably thick resin may remain on top of the circuit patterns and cause the surface of the resin layer to become uneven, and at locations where the circuit patterns are sparse, the amount of resin may be insufficient (see paragraph [0004] of the specification).

Accordingly, as explained in paragraph [0004] of the specification, even after having been pressed by a smoothing plate, the conventional resin layer tends to be thicker in the sections where the circuit patterns are dense, and thinner in the sections where the circuit patterns are sparse, thus creating a resin layer of non-uniform thickness. In this regard, Applicant notes that the specification describes that it is difficult to accurately polish such a resin layer having a non-uniform thickness so as to make it flat (see paragraph [0004] of the specification).

In view of the foregoing problems associated with the use of a conventional resin layer, such as resin layer 16 of Murakami, Applicant notes that paragraph [0009] of the specification clearly describes the problems that are solved, and the advantages that are provided by utilizing the above-noted features of claim 1 drawn to the resin patterns of the resin sheet. In particular, Applicants note that paragraph [0009] sets for the following:

> According to the present invention, since the resin layer is pressed, even if the resin layer is gradually raised at a part where the circuit patterns are formed thereunder, the raised part is compressed so that the resin layer as a whole is made to thinly and evenly spread. Even if sparse and dense

> parts are present in the circuit patterns on the substrate, a semi-cured resin sheet with resin patterns complementary to the circuit patterns may be created beforehand. The resin patterns are located on the surface of the semi-cured resin sheet facing the circuit patterns, so that the resin layer as a whole is made to be substantially uniform regardless of the sparse and dense state of the circuit patterns. Since only a relatively thin resin layer remains on the circuit patterns when the resin is cured in this state, it is possible to obtain a substantially flat substrate with the circuit patterns exposed by polishing the circuit patterns at a strength that will not damage the circuit patterns. (Emphasis added.)

In view of the above-noted disclosure in the specification at paragraphs [0004] and [0009], Applicant points out that, contrary to the position taken by the Examiner, the specification clearly explains the problems that are associated with the use of a conventional resin layer, and the advantages that are provided by utilizing the resin patterns of claim 1, namely, that even in the presence of sparse or dense sections of circuit patterns on the substrate, the resin layer can be made substantially uniform.

In this regard, Applicant notes that the Federal Circuit has held that a claimed invention should not be rejected as a mere "design choice" when the Applicant presents evidence of the technical advantages of the Applicant's structure. See *In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995). Here, as described above, Applicant's disclosure identifies the benefits that are obtained by utilizing the claimed resin patterns, namely, that even in the presence of sparse or dense sections of circuit patterns on the substrate, the resin layer can be made substantially uniform (see paragraph [0009] of the specification).

Therefore, because the above-noted feature drawn to the resin patterns confers technical advantages over the prior art, Applicant respectfully submits that such a feature would not have been a simple matter of design choice. In this regard, Applicant notes that the Examiner has not

provided any factual basis as to why one of ordinary skill in the art would have modified Murakami so to provide such a feature.

Moreover, the Federal Circuit has expressly stated that all *per se* rules of obviousness are legally invalid and that the obviousness analysis must be based on the prior art:

> The use of per se rules, while undoubtedly less laborious than a searching comparison of the claimed invention--including all its limitations--with the teachings of the prior art, flouts section 103 and the fundamental case law applying it. Per se rules that eliminate the need for fact-specific analysis of claims and prior art may be administratively convenient for PTO examiners and the Board. Indeed, they have been sanctioned by the Board as well. But reliance on per se rules of obviousness is legally incorrect and must cease. Any such administrative convenience is simply inconsistent with section 103, which, according to Graham and its progeny, entitles an applicant to issuance of an otherwise proper patent unless the PTO establishes that the invention as claimed in the application is obvious over cited prior art, based on the specific comparison of that prior art with claim limitations. (Emphasis added)

In re Ochiai, 71 F.3d 1565, 1572, 37 U.S.P.Q.2D (BNA) 1127, 1134 (Fed. Cir. 1995).

In this regard, Applicant notes that MPEP 2143 clearly explains that in view of the decision in *KSR International v Teleflex Inc.*, there must be a "clear articulation of the reason(s) why the claimed invention would have been obvious" (emphasis added). Further, MPEP 2143 also indicates that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" (emphasis added).

In the present case, Applicant submits that the above-noted statement by the Examiner indicating that it would have been an obvious matter of design choice to modify Murakami so as to provide the resin patterns of claim 1 is not a clear articulation of the reason why one of ordinary skill in the art would have modified Murakami in the manner suggested by the

Examiner, and is not an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. Instead, the Examiner's statement is merely conclusory.

In view of the foregoing, Applicant respectfully submits that because Murakami merely discloses the use of a conventional resin layer 16 that is formed on surfaces of the substrate, that Murakami does not disclose, suggest or otherwise render obvious the above-noted features recited in claim 1 of forming a resin layer by superposing a semi-cured resin sheet having resin patterns formed thereon on the surface of the printed wiring board containing said circuit patterns, the resin patterns formed on the semi-cured resin sheet being the inverse of the circuit patterns formed on the printed wiring board; wherein said resin patterns on said semi-cured resin sheet are formed before said semi-cured resin sheet is superposed on the surface of the printed wiring board, said resin patterns being formed on a surface of said semi-cured resin sheet facing said circuit patterns.

Accordingly, Applicant submits that claim 1 is patentable over the cited prior art, an indication of which is kindly requested. Claims 3-8 and 20 depend from claim 1 and are therefore considered patentable at least by virtue of their dependency.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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